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4 Guidelines for Researching and Writing IPQMS Case Histories

Chapter 3 shows conclusively that the cornerstone of the IPQMS methodology is a data base of case histories that provide useful lessons to improve the process of planning, design, implementation, and management of projects in all sectors. The international study team concluded that the research and writing must be conducted similar to autopsies or postmortems to fully understand why projects fail and how to prevent similar failures for new projects. Thus, it was decided to use the integrated project cycle as the basis for the conduct of the postmortems.

The project team also agreed that the case histories must be an integral part of the curriculum for the education and training of project managers. Thus, the cases are used to provide realistic contexts in studying the special difficulties inherent in sound project management needs. To accomplish this purpose, the cases must be written in a prescribed format with detailed guidelines to ensure all factual data relevant to each case are obtained. This can only be accomplished by researching and writing the cases in the framework of the IPQMS.

In summary, autopsies or postmortems of projects can furnish invaluable lessons to improve planning, design, implementation, and management for new projects. To be effective, the postmortems must be conducted in a consistent and systematic manner. The integrated project cycle provides an ideal framework for the investigative procedures and analyses. Experience demonstrates it also promotes teamwork and holistic control which will ensure accountability, cost effectiveness, and quality in all sectors.

4.1 GENERAL OUTLINE OF THE CASES

The form of the case histories should generally follow the framework of the IPQMS and should be organized in the following manner:

Chapter 1 Project background

Chapter 2 Planning, appraisal, and design

Chapter 3 Selection, appraisal, and activation
Chapter 4 Operation, control, and handover
Chapter 5 Evaluation and refinement
Chapter 6 Conclusion

4.1.1 SUGGESTED DISCUSSION QUESTIONS

Although the case writers should generally follow the sequence of chapters, they may not be able to adhere exactly to the sequence of tasks within each chapter. The tasks may run together, or be out of sequence, or possibly be omitted in one of the phases. Thus, the writers should exercise imagination and flexibility in organizing a project's activities and interactions.

Moreover, since each project is a new situation set in a new environment, it requires the writers to highlight the factors significant to their particular case. Thus, the writers must emphasize or de-emphasize phases according to the individual requirements of their case history. This means that some chapters of a case history will be more detailed than others. Above all, the case writers must focus on the special lessons to be learned from their project, describing fully the different sets of issues, problems, interrelationships, and tasks.

The IPQMS is thus a focal point — not a rigid framework — from which writers can elucidate the many variables and interrelationships that make their case an excellent learning device.

4.2 GUIDELINES FOR CHECKLIST OF QUESTIONS IN THE IPQMS

The 260± questions represent the composite experience of 18 senior scholars and practitioners involved with policies, planning, design, implementation, management, and evaluation of large numbers of projects in their home countries.

Thus, the checklist of questions serves a variety of purposes in addition to providing a comparable framework for researching and writing case histories. First, it gives the reader an appreciation of the number and complexity of the factors and issues affecting project management. Second, the questions are useful in the analysis of other projects for either evaluation purposes or for troubleshooting purposes. Third, they are extremely useful for the instructor in planning and guiding student assignments for term papers, group reports, and class discussions. Fourth, questions in the final phase of the IPQMS are useful for both policy makers and planners in refining policies

and plans for new projects. The questions are systematically arranged according to the IPQMS.

4.3 CHECKLIST OF QUESTIONS IN THE IPQMS

4.3.1 PHASE 1: PLANNING, APPRAISAL, AND DESIGN

4.3.1.1 Identification and Formulation

1. Was the project identified in the course of the national (or state/county) or corporate development planning process?
 - a. If so, what was the policy-making characteristic or corporate culture of this process?
 - b. If not, how did it come about? Is the project just a reaction to a short-term opportunity but with a future potential for growth?
2. Can the national (or state/county) planning process ensure that policies and programs for economic or social development at that level are translated into or integrated with counterpart plans at regional and local levels? Similarly, can the corporate planning process ensure that the project can eventually be integrated with the other units of the organization?
3. Did the original project idea relate to problems identified in the national, sectoral, or regional plan? In the overall corporate context, did the original project idea relate to problems pertaining or obtaining in the various units?
4. What were the major environmental factors — political, economic, social, cultural, technical, or others that led to the project?
5. What was the primary source of the project idea?
6. Who were the individuals or groups that first proposed the project? What were their background interests on the project?
7. Did other organizations or companies, allied or competitive, become involved in defining the project?
8. What was the role of external donors or international funding agencies and business finance institutions in project identification? Were foreign subsidiaries of the corporation involved in project identification?

9. Who, other than the first proposers, supported the project idea? Who opposed it? Who were ambivalent toward the project?
10. Were other groups or individuals involved in the preparation, such as clients, users, beneficiaries, political supporters or opponents, resource suppliers, potential project implementors, competitors, and other parties?
11. How and by whom was the initial idea justified in order to be included in the country/state/county or corporate investment program?
 - a. Should it be in the program at this stage? If so, why?
 - b. If it should not be, why not?
12. Were the prefeasibility studies done?
13. How clearly and explicitly were the purposes and goals of the project stated or defined?
 - a. Were the major potential problems also identified at this time?
 - b. Were the time constraints, and budget limitations and quality of outputs taken into consideration?
14. Was there a general commitment to the goals of the project by all of the constituencies in its design?
 - a. Whose political, administrative, technical, and financial support could initially be counted upon?
 - b. What resource did these supporters have?
 - c. What conflicts arose and how were they settled? What were the compromises made?

4.3.1.2 Feasibility Analysis and Appraisal

1. How extensive was the preliminary design?
 - a. Who prepared it? What is the background information on the company or group that prepared the preliminary design?
 - b. How reliable were the assumptions and supporting documents?
2. Was a formal feasibility analysis conducted?
3. Who conducted it?
 - a. Was it a national organization, an international assistance agency, a consulting team, or a combination of all of these? Or is it

- within the project development group of the corporate or regional headquarters?
- b. What were the key qualifications of the key persons involved?
4. How comprehensive and detailed were:
 - a. The technical feasibility studies (project location and layout, subsurface conditions and problem areas, technology needs, availability of construction and raw materials, provision for environmental impact requirements, availability and training of technical personnel, and other areas of concern)?
 - b. The financial feasibility analyses (investment analysis, projected capital needs at various stages)?
 - c. The economic feasibility analyses (regional/corporate economic benefits, cost-benefit studies of alternative designs, effect on employment and cultural diversity in the project area)?
 - d. The market and commercial/industrial feasibility of the corporate project, or as appropriate for a public sector project?
 - e. The administrative, organizational, and managerial studies?
 - f. The environmental baseline studies?
 - g. If need be, the environmental impact studies (estimated impact and mitigation involved in the project)?
 - h. The social and political impact studies?
 5. Did the studies reveal any weaknesses in the project that might affect future operations?
 - a. If so, what were these weaknesses?
 - b. How were these weaknesses addressed?
 - c. Any provisions to prevent such weaknesses from recurring?
 6. What appraisal criteria were used?
 - a. Who had authority for the appraisal?
 - b. Were the appraisers trained?
 7. What procedures were used during the appraisal process?
 - a. How many stages did it go through?
 - b. How extensive and intensive were they?
 8. Did the appraisers and reviewers make an on-site inspection?
 9. Were there any reservations about the overall ability of the project to succeed?

- a. If so, what were these reservations? Who made these reservations?
 - b. Were there any problems that other appraisers foresaw that were not included in the final appraisal?
 - c. If so, what were the problems and why were they not included?
10. How were uncertainties and gaps in the reliable estimates or projections affecting project appraisal dealt with?

4.3.1.3 Design

1. What were the major sources of data or information used in designing the principal components of the project? How about the semi-major components?
2. How well did the project design reflect the initial and most important objectives and targets of the project idea?
3. How clearly and explicitly were the purposes and goals of the project defined and stated?
 - a. Were the immediate goals distinguished from longer-range goals?
 - b. Were project objectives related to broader development studies?
4. Did the proposal include measurable targets for attaining objectives and specifications for the project's outputs?
5. Did the source of the project's identification influence how it was prepared and designed? If so, how?
6. What attempts were made to identify the potential project manager(s) and to involve him or her in reviewing both project plans and design?
7. Were the project's activities, functions, tasks, and components clearly identified and analyzed?
8. How many and what kind of design alternatives were considered and analyzed?
 - a. How were these alternatives evaluated and chosen?
 - b. Were relevant building and other codes satisfied?
 - c. Were relevant environmental impact assessments and studies, including mitigation, made for each alternative?

9. Were preconditions or prerequisites of success considered during the design task? Were potential problems or bottlenecks to successful implementation identified?
10. Were potential social and cultural impacts of the project taken into consideration in its design?
 - a. Were adverse effects identified?
 - b. If so, how was the design modified?
11. Did the project design indicate an adequate mechanism for internal and external communication requirements?
12. Were links and relationships with complementary or competing projects examined?
13. In how much detail were plans, budgets, specifications, job descriptions, and work schedules prepared?
14. Were alternative organizational arrangements for project execution and operation considered? Were plans made for expanding the administrative and technical capacity of the potential project implementation unit?
15. Did the project organization maintain a balance, appropriate to the project task, between technical, administrative, and managerial persons and functions?
16. Were the different elements of the project design integrated into a coherent whole?
 - a. Was there any one person or group responsible for this integration?
 - b. If so, what were their qualifications?
17. Was a post-evaluation plan prepared, and were arrangements made for collecting baseline data for the various tasks?
 - a. If so, what method was selected for the evaluation?
 - b. Did it include checks on project goals, costs, quality, and schedule?
 - c. Do the baseline data reflect *all* the feasibility studies as covered in Chapter 2?
 - d. Are they sufficient to prepare a checklist for project implementation and control?

4.3.2 PHASE 2: SELECTION, APPROVAL, AND ACTIVATION

4.3.2.1 Selection and Approval

1. What appraisal and selection criteria were used?
2. How many stages of review were necessary before reaching final selection and approval? Who participated in the review, selection, and approval processes?
3. Did these stages involve:
 - a. Obtaining legislative and/or policy change authorization?
 - b. Obtaining executive and/or corporate approval?
 - c. Confirming procedures for budget operation, human resources management, and interagency and interbranch operation?
4. Did any changes occur in the project environment since the time of the feasibility study that affected project approval?
5. How long did the appraisal, selection, negotiation, and approval processes take?
6. What major factors such as political, social, technical, economic, administrative and managerial, environmental and others were considered that influenced decisions at each stage of the review?
7. How were the uncertainties and gaps in the reliable estimates of projections affecting project appraisal and selection dealt with?
8. Was the proposal in competition with or complementary to others? If so, was the project appraised and evaluated comparatively with these others?
9. Which of the following criteria were used in the selection?
 - a. Linkage with national or local programs, or in the case of corporate projects, linkage with other units and products in the corporation?
 - b. Accelerating the pace of economic and social progress in the area, or profitability of the corporation, or advancing the frontiers of competition against other products?
 - c. Availability of manpower, natural resources, and raw materials?
 - d. Priorities dictated by political pressures, corporate culture, or competitive positioning?
 - e. Quality, cost, and duration?
 - f. Other criteria? If so, list.

10. From what sources was the project to be funded? Internal resources? Loans from funding organizations — corporate, national, or international, and other sources?
11. Who was involved in the negotiation of loans, grants, or other forms of funding for the project?
 - a. What were the major issues of negotiation?
 - b. What were the positions of the negotiators?
 - c. How were differences resolved?
12. Were constraints and conditions placed on the project's design or operation by the selection, approval, or funding authorities? Was the plan modified to conform to those conditions?

4.3.2.2 Activation

1. What criteria were used in choosing a project implementation unit or executing agency?
2. What variables influenced the choice of organizational structure?
3. What was the relationship between the project implementation unit and higher organizational authorities in terms of responsibilities and support?
4. Who was included in the project team?
 - a. Were they relieved of their previous responsibilities temporarily or permanently?
 - b. Were they included on a part-time or full-time basis?
 - c. What were their qualifications?
5. What criteria were used in selecting personnel for the project team? In selecting the project manager?
 - a. What recruitment methods were used?
 - b. What inducements were provided?
6. Were the project leader and the project team given their job responsibilities clearly? Were they given orientation or a period of retraining?
7. What working contracts and activation documents were used? Who prepared them?
8. Were adequate information and control systems provided at the activation phase? If not, why not?

9. How was the project organized internally with regard to:
 - a. Work and task division?
 - b. Authority, responsibility, and supervision?
 - c. Communication channels among divisions and supporting organizations?
 - d. Relationships between technical, managerial, and supporting organizations?
 - e. Resource procurement and allocation?
 - f. Monitoring and reporting?
10. What types of systems or procedures were established for bidding and contracting?
11. What were the major sources of the following project inputs?
 - a. Financial resources?
 - b. Materials, supplies, equipment, and facilities?
 - c. Manpower?
 - d. Political/corporate support?
 - e. Technology?
 - f. Public participation?
12. Were detailed and realistic project operation plans formulated for:
 - a. Budgeting?
 - b. Recruitment and training of personnel?
 - c. Data collection?
 - d. Work and activity scheduling?

4.3.3 PHASE 3: OPERATION, CONTROL, AND HANDOVER

4.3.3.1 Implementation

1. How were work activities and project tasks scheduled?
 - a. Did the project management team make use of such techniques as CPM or PERT analysis, and other advanced computer-aided techniques?
 - b. What technique was used, and why was it selected?
2. Was there an adequate management information system?
3. Did it define:
 - a. Information requirements?
 - b. Sources of information?
 - c. Systematic procedures and organizations for collecting data?

- d. A coordinated design to integrate internal and external project activities?
- 4. Were feedback channels and feedback elements identified?
 - a. Was adequate use made of these channels?
 - b. Was adequate use made of the information received from these channels?
- 5. Were formal problem-solving or troubleshooting procedures established?
- 6. What arrangements were made for coordination of project activities with supporters, suppliers, clients, other corporate branches, and the public?
- 7. What was the leadership style of the project manager during the implementation phase? Could it be characterized as:
 - a. Management by control? A management approach involving authority and responsibility to oversee and coordinate all phases in the project cycle in order to ensure that project goals are met on both budget and schedule.
 - b. Management by objectives? A management approach according to which performance is monitored by comparing actual outputs with initial goals and objectives.
 - c. Management by exception? A management approach that focuses on problems in scheduling and actual progress (progress of the object is the primary concern).
- 8. Was the project redesigned or modified to meet unanticipated problems during implementation?

4.3.3.2 Supervision and Control

- 1. Were formal systems or procedures created to:
 - a. Procure, inspect, and inventory at optimum levels raw materials and other resources?
 - b. Ensure vigorous recruitment and optimum utilization of manpower and output?
 - c. Monitor budget performance and cash flows; forecast changes in funding requirements?
 - d. Inspect the various activities in implementation to ensure design requirements are met?
 - e. Test and adapt transferred technology?

2. What methods were used to report progress and problems to higher authorities?
3. How were remedial actions initiated and performed when monitoring and control procedures indicated problems?
4. Did conflicts occur:
 - a. Between technicians from different disciplines or specializations?
 - b. Between administrators and technicians?
 - c. Between project managers within the parent organization?
 - d. Between the project implementation unit and other organizations?
5. Were periodic job meetings held to resolve any conflicts? If so, how often?

4.3.3.3 Completion and Handover

1. Were project completion reports prepared and reviewed?
2. Was a plan prepared either for replication or for the transition of a successful experimental, pilot, or demonstration project to full-scale operation?
3. What arrangements were made for diffusion of project outputs and results?
4. Were replicable components of the project identified?
5. Were arrangements made for follow-up investment or multiphase funding?
6. Were extension or technical assistance services created to assist clients or users in adapting project outputs and results?
7. Were procedures and methods of handover to an ongoing organization well established?
 - a. Were they complied with?
 - b. If not, why not?
8. What kinds of arrangements were made to transfer unutilized or excess resources (human, financial, physical, and technical) from the project at completion to other projects or organizations?

9. What arrangements were made for the transfer or disposition of the capital assets of the project?
10. What arrangements were made for credit or loan repayment?
11. Would levels of outside funding change considerably upon handover to an ongoing organization?
12. Were project personnel reassigned to new duties at the project's completion?
13. Did the handover mean that new persons took over the project activities, or were the same persons transferred to a different setting within the organization?
14. What restructuring or modification was required of the receiving agency, institution, or implementing company?
15. What difficulties arose as a result of the transfer and handover:
 - a. To the project team?
 - b. To the receiving institutions?
 - c. To the beneficiaries?
 - d. To the funding agencies?

4.3.4 PHASE 4: EVALUATION AND REFINEMENT

4.3.4.1 Evaluation and Follow-Up

1. Was the need for the evaluation adequately perceived?
2. Were the objectives of the evaluation sufficiently clear?
3. What type of evaluation was decided upon? Was the focus to be on short-, medium-, or long-term effects/benefits of the project?
4. Were formal evaluation procedures established? Was an evaluation timetable set up?
5. What techniques were used in the evaluation (cost-benefit analysis, baseline measures, etc.)?
6. Who did the evaluation?
 - a. Was it an individual or a team?

- b. If a team, was it composed of individuals independent and outside of the parent institution/holding corporation, or of individuals from within, or both?
 - c. Why was this choice made?
- 7. What level of seniority did the evaluators have?
- 8. Were adequate background information and data provided for evaluation purposes?
- 9. Was the evaluation team provided with adequate administrative support?
- 10. What were the results of the evaluation?
 - a. Were the intended benefits realized?
 - b. If not, why not?
- 11. Was project efficiency measured using time schedule, budget, and performance output considerations? What were the major factors causing delay, cost overruns, and failure to meet project performance criteria?
- 12. Were variance analysis and other methods used to measure the difference between projected and actual results?
- 13. Did the evaluation consider the appropriateness of the following aspects of the project:
 - a. Management information system?
 - b. Level of technology?
 - c. Operating design?
 - d. Manpower capabilities?
 - e. Organizational structures and flexibility?
- 14. Did the outcome of the project support the programmatic and policy goals for which the project was intended?
- 15. What was the overall impact of the project on the region and locality, sector, or corporation?
- 16. What was the prevailing attitude and reaction of the end-users at the start of the project?
 - a. What was it at the end?
 - b. Did they perceive the project objectives in the same way?
- 17. Did the evaluation identify unmet needs? Did the evaluation identify piggyback or follow-up projects?

18. Did the evaluation identify replicable components of the project?
 - a. Did it identify the need for follow-up investment or multiphase funding?
 - b. Did it detect unforeseen side effects of the project, whether fortunate or unfortunate?
19. Were formal evaluation reports prepared and presented?
 - a. To which individuals or agencies were they given?
 - b. When?
 - c. How were they used?
20. Did the project teams see the reports or participate in their formulation or preparation?
 - a. If so, what was the response?
 - b. If not, why not?

4.3.4.2 Refinement of Policy and Planning

1. Were the results of the evaluation followed up?
 - a. If so, by whom and how soon afterward?
 - b. What were the results?
 - c. If there was no follow-up, why not?
2. Did the evaluation results lead to the formulation of proposals for further projects? Did they lead to improvements or modifications of national, regional, or corporate policy?
3. What lessons and insights were gained from the project?
 - a. Was there an analysis of the reason for deviations in implementation from the operating plan?
 - b. Did the analysis reveal both long- and short-term lessons?
 - c. What were they?
4. How can these lessons be applied to refine the project or future similar projects?
5. How can these lessons be applied to future policy decisions on project management?

As the foregoing list of questions demonstrates, the issues and factors affecting project planning and management are numerous and complex. To bring order out of this maze of diverse factors, the IPQMS organizes management tasks and issues into an integrated concept which views projects in

their entirety from identification to follow-up and places them in a cohesive framework. This conceptual framework provides a comprehensive and balanced approach to planning and management, one that will result in total quality and cost effectiveness in all programs and projects.

4.4 SAMPLE PROPOSAL FOR CASE HISTORY

A sample of the form developed for IPQMS case proposals follows.

1. Proposed Title of Case History:

2. Author:
(Family) (First) (Title)

Address:

Present Position:

Qualifications:

Curriculum Vitae: Please attach C.V. to proposal, giving further details, particularly regarding positions held, list of publications, etc.

3. About the Case

Description of the case: Please attach a two- to four-page description of the case covering the various stages as outlined in the integrated planning and quality management system. Include in your description:

- (a) The dates of the project: commencement and completion.
- (b) Details of the stages of your case you consider would be especially important for teaching particular aspects of project management.
- (c) The key organizational or management activities in the project which impressed you as being particularly significant.
- (d) Organization Setting: Attach a one- to two-page description of the organizational setting of the case, including details of the project organization and project management personnel.
- (e) Personal Involvement: State briefly any personal involvement you had in the case.

4. Source Materials

(a) Are the materials, documents, etc. needed for the case available for your use?
.....

(b) What organizations have the materials?
.....
.....

(c) Is special permission required to use the materials? If so, please list those materials and how permission should be obtained.
.....
.....
.....
.....

5. Work Plan

(a) How long will it take you to write the first draft?
.....

(b) When are you able to start writing the case?
.....

(c) If your proposal is accepted, when do you expect to finalize the case?
.....

Illustrations — Photos

(a) Do you propose to use illustrations (e.g., graphics, photos)?

(b) If you do, please estimate the number to be used.
Line drawings:
Photos (Black & White):